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Paleomagnetism of the upper Riphean deposits in the Turukhansk and Olenek uplifts and Uda Pre-Sayan region and the neoproterozoic drift of the Siberian Platform

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Abstract

© 2015, Pleiades Publishing, Ltd. A series of new paleomagnetic results have been recently obtained for the Neoproterozoic of Siberia. Nevertheless, the Neoproterozoic segment of the Apparent Polar Wonder Path (APWP) for this craton and its paleogeography are still unclear. A definite solution of these tasks will certainly take many years of dedicated efforts. However, even now we may take an important step in this direction by establishing the general displacement trend of the Neoproterozoic paleomagnetic poles of the Siberian Platform. For doing this, we need to obtain several high-quality paleomagnetic results whose age corresponds to the least complete (the sparsest) part of the Neoproterozoic paleomagnetic record. In the scope of this task, we carried out paleomagnetic studies of the Late Riphean sedimentary and intrusive rocks from the key Late Riphean sections of the Turukhansk region (Sukhaya Tunguska, Derevnya, and Miroedikha formations), Olenek Uplift (Upper Khaipakh subformation), and Uda Pre-Sayan region (Tagul Formation of the Karagas Group, Nersa intrusion). Based on the results of these investigations, together with the previous data, we suggest two new alternative models of the Neoproterozoic segment for the Siberian APWP and analyze some tectonic implications of these models.

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